Bernette

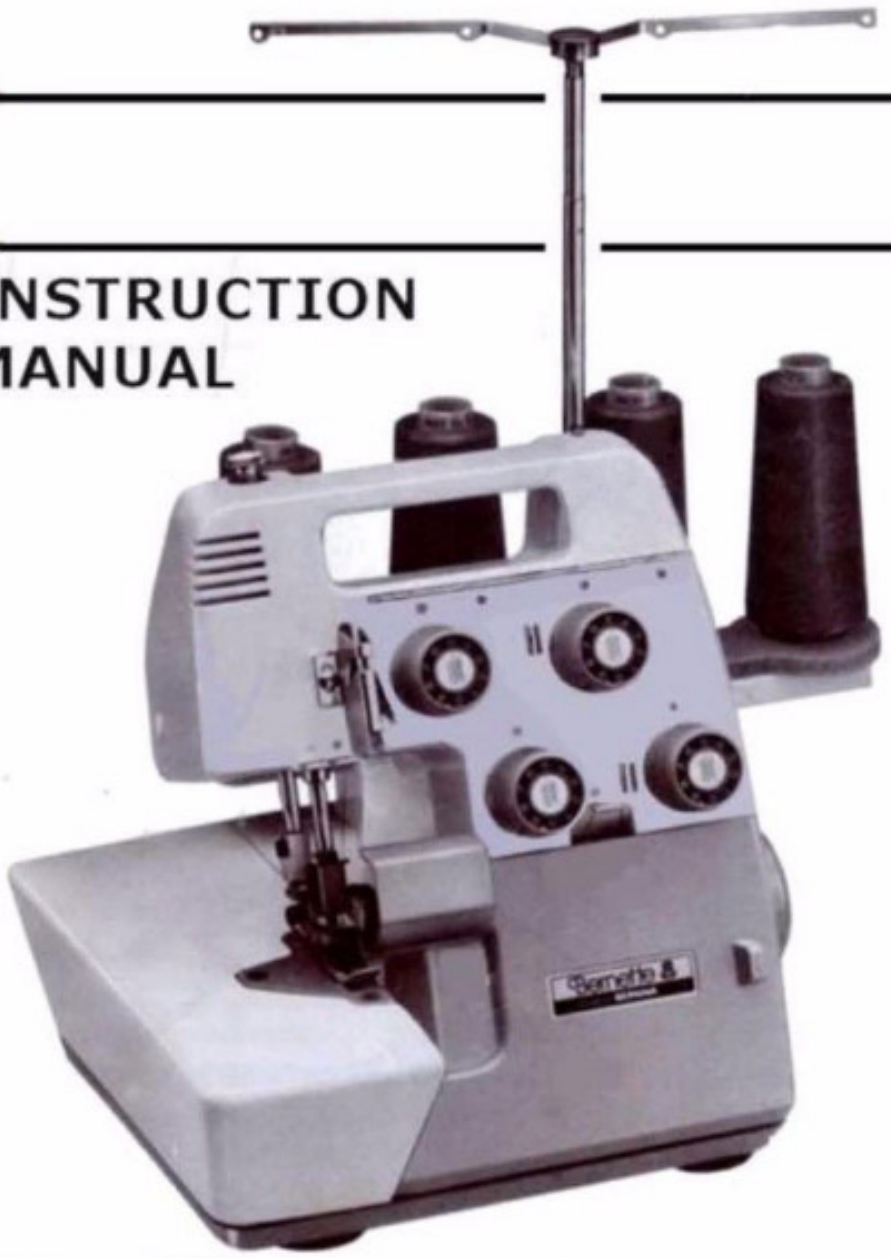
Made for Bernina

MODEL MO-234

2-NEEDLE, 4-OR 3-THREAD CONVERTIBLE

OVERLOCK SEWING MACHINE

INSTRUCTION MANUAL



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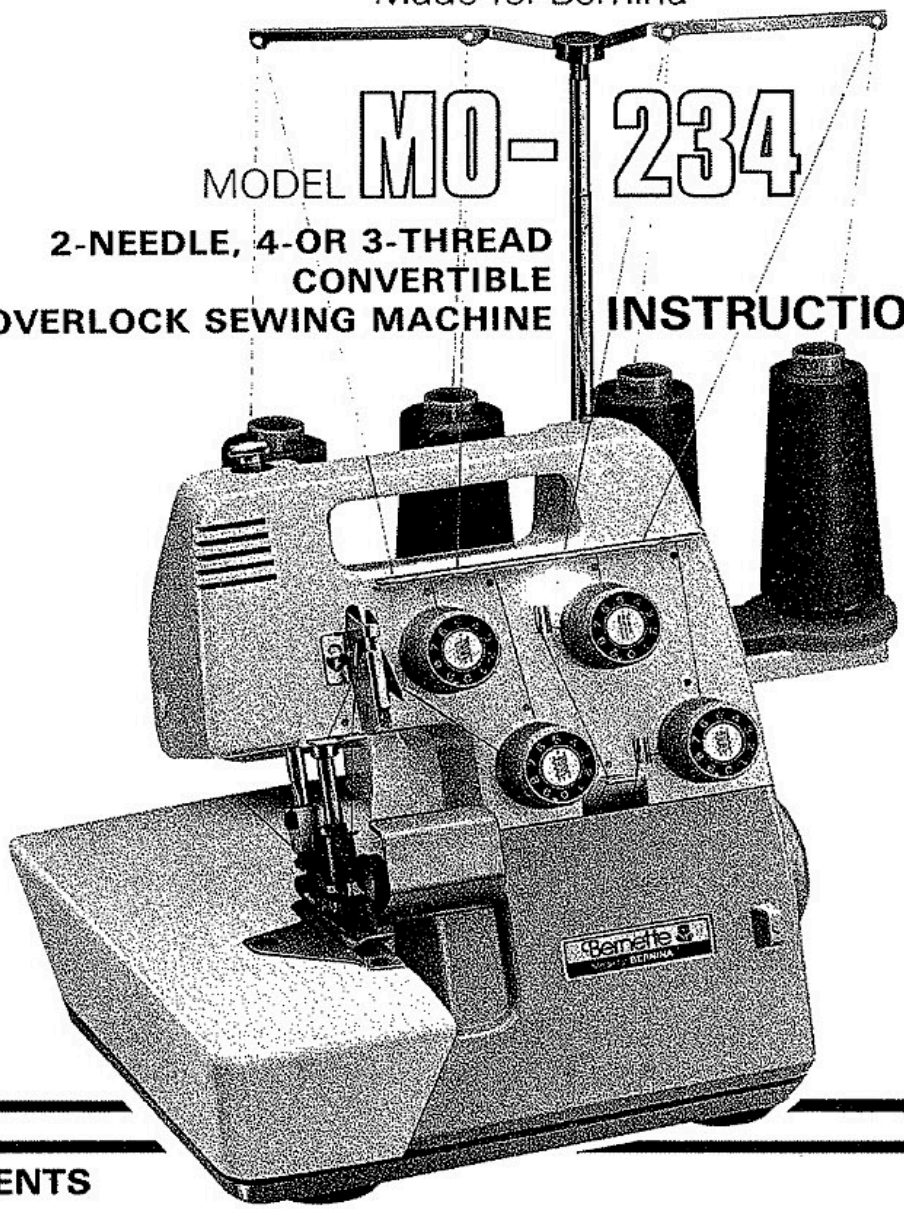

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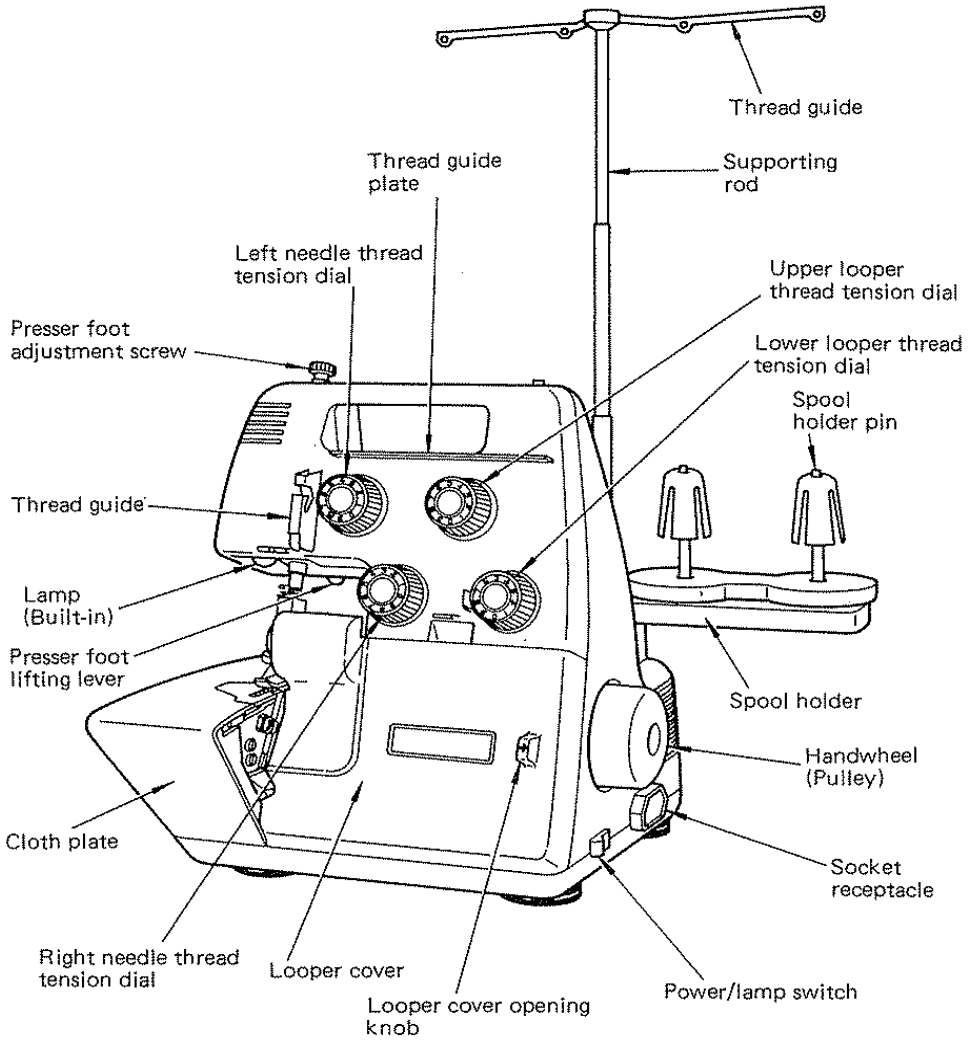
Names of main components

IMPORTANT

SAFETY REGULATIONS

The following safety regulations must be observed without fail:

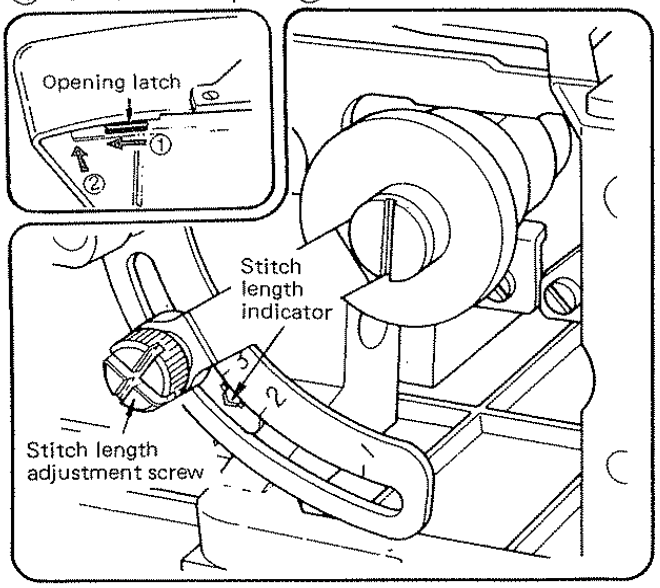
- The moving needle and the cutting knives are sources of danger (risk of injury to fingers). The sewing position must, therefore, be kept under constant observation.
- Manipulations within the area of movement of the needle, such as changing the needle or cutting knives, or threading the machine and all manipulations with open covers (stitch width or stitch length adjustments), must only be performed with the machine switched off (main switch set to off position).
- When cleaning or lubricating the machine or changing the light bulb and interruptions in sewing or after completion of work, the machine must be disconnected from the power supply by pulling out the mains plug.
- Repairs to the electric section, especially the changing of the lead wire to the foot control unit, may only be carried out by one of our service agencies.



- **View with the cloth plate opened**

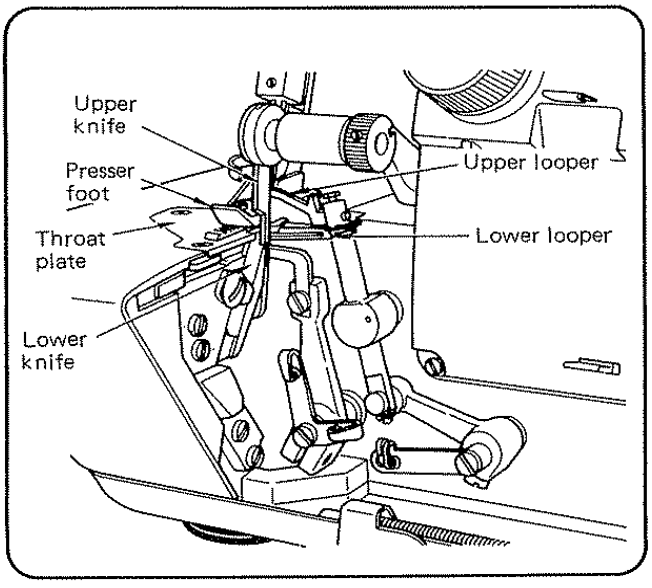
The cloth plate can be opened by using the opening latch as follows:

① Pull it towards you. ② Push it to the left.



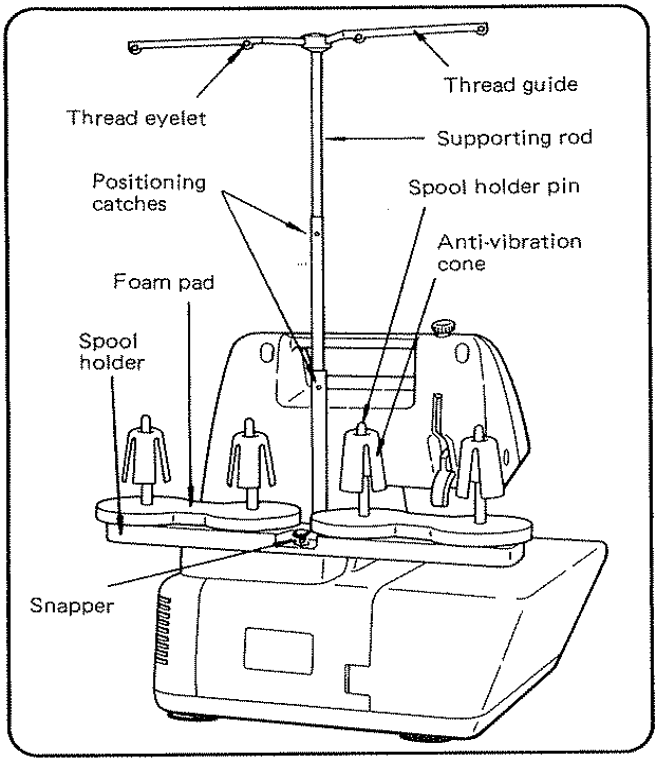
- **View with the looper cover opened**

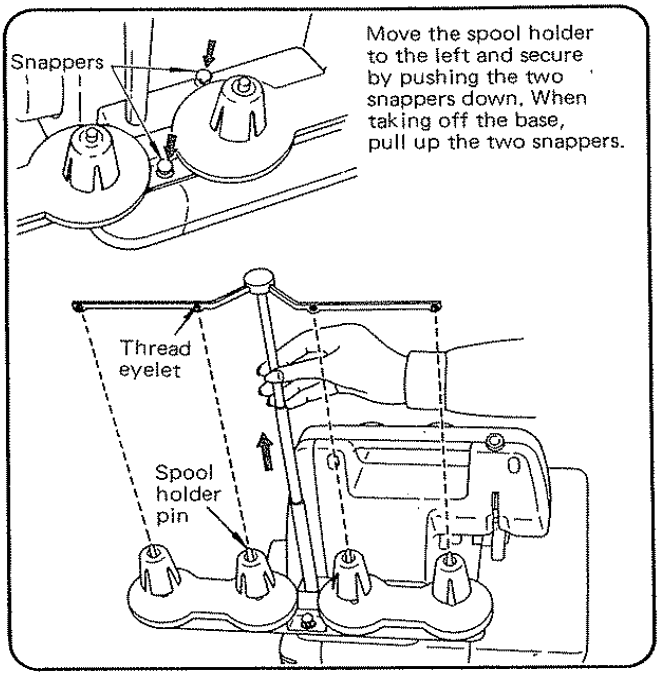
To open the looper cover, pull the opening knob to the right and tilt the cover towards you.



How to use the thread stand

- **Names of thread stand components**

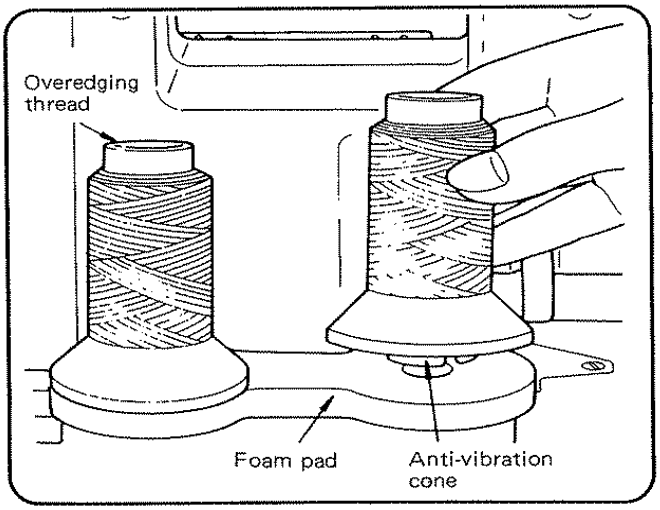



Snappers
Move the spool holder to the left and secure by pushing the two snappers down. When taking off the base, pull up the two snappers.
Thread eyelet
Spool holder pin

Fully extend the supporting rod until the positioning catches engage.

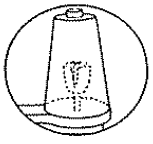
- Make sure the thread eyelets of thread guide are located exactly above the respective spool holder pins.

- **For overedging thread**
  (It is advisable to use overedging thread for this overlock machine.)



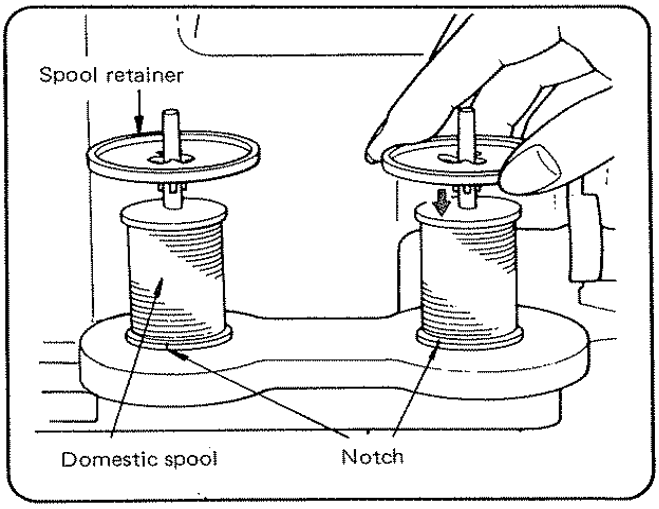
Place thread on to the spool holder pin using the anti-vibration cone.

- Do not remove the foam pad.



When using large spools, turn anti-vibration cone upside down.

- **For domestic spools**



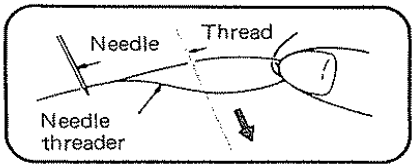
① Remove the anti-vibration cone from the spool holder pin.
② Place the domestic spool on the spool holder pin.
③ Push the spool retainer provided on to the spool.

- Do not remove the foam pad.
- The thread notch on the spool should be at the bottom.

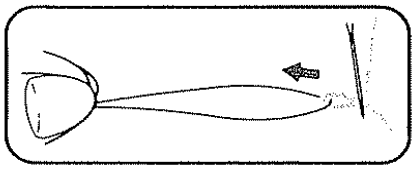
Threading (Looper threads and needle threads)

Correct threading is important otherwise uneven stitches or thread breakage may result. You will find a threading illustration when you open the looper cover. In addition, each thread guide is colored for threading indication.

- The threading may be done more easily by using the needle threader or tweezers provided.

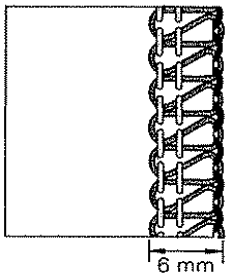


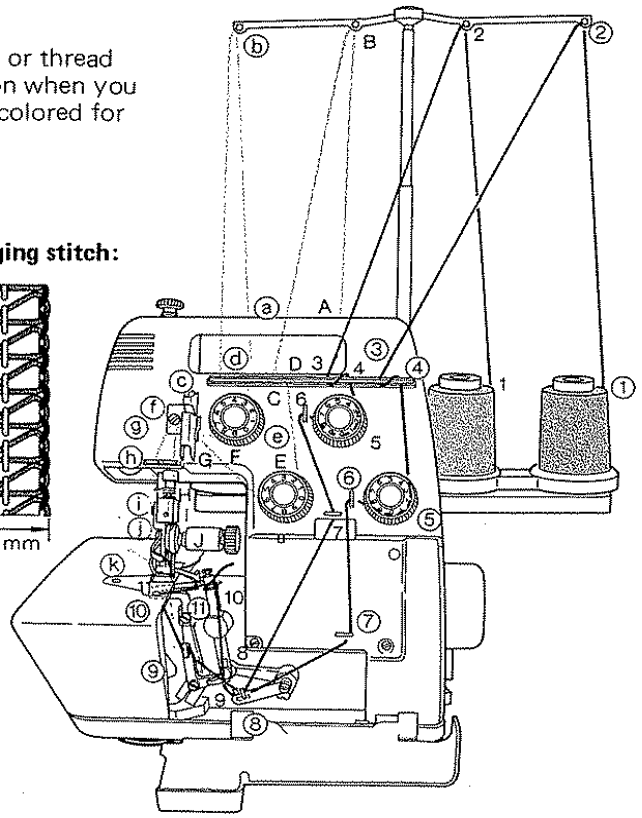
① Pass the thread through the needle threader, and insert into the needle eye.



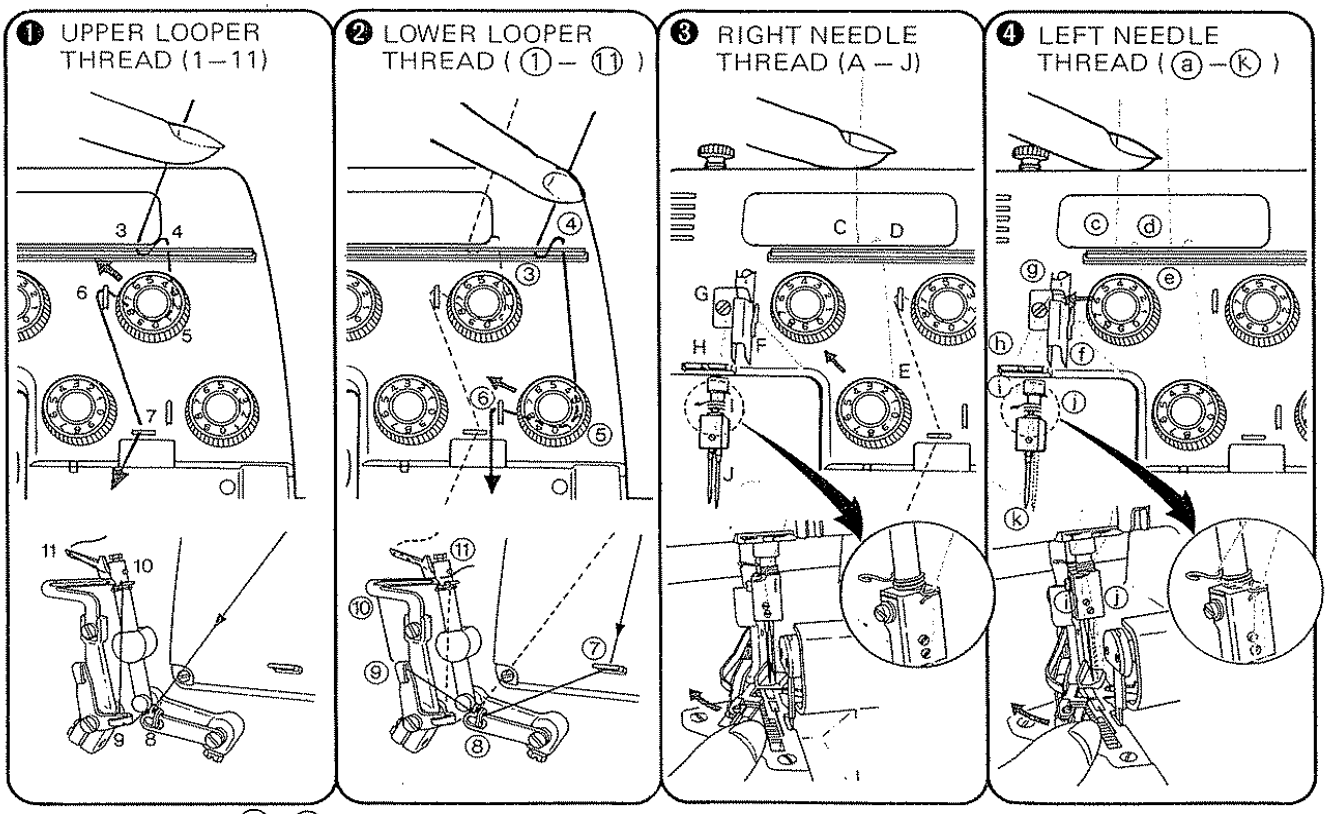
② Pull the needle threader in the direction indicated.

■ **4-Thread overedging stitch:**





- Pull the 4 threads 5 cm or more from the individual needles and loopers, place overedge needle threads and overedge looper threads together under the presser foot.

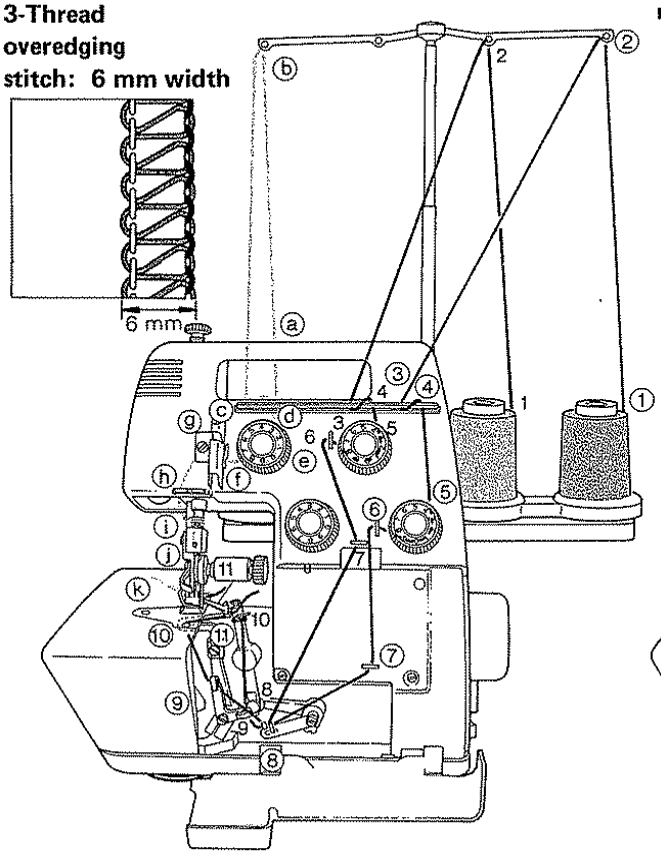


- To thread 5⑤E(e), hold the thread with your finger and pull it strongly to the left.
- Thread the needle using the swing-out foot mechanism as follows:

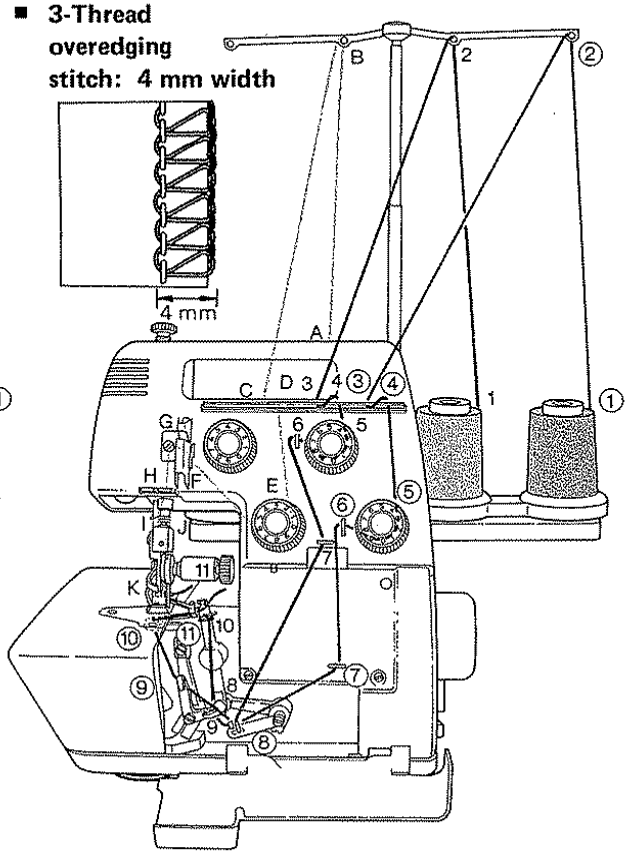
❶ Turn the handwheel until the needle reaches its highest position.
❷ Lift the presser foot and TURN THE FOOT TO THE LEFT.
❸ Insert the thread into the needle eye.
❹ After threading, TURN THE PRESSER FOOT TO THE RIGHT to its original position.

Attention: When the presser foot is turned to the left, for safety reasons the MACHINE CAN NOT BE OPERATED.

■ **3-Thread overedging stitch: 6 mm width**

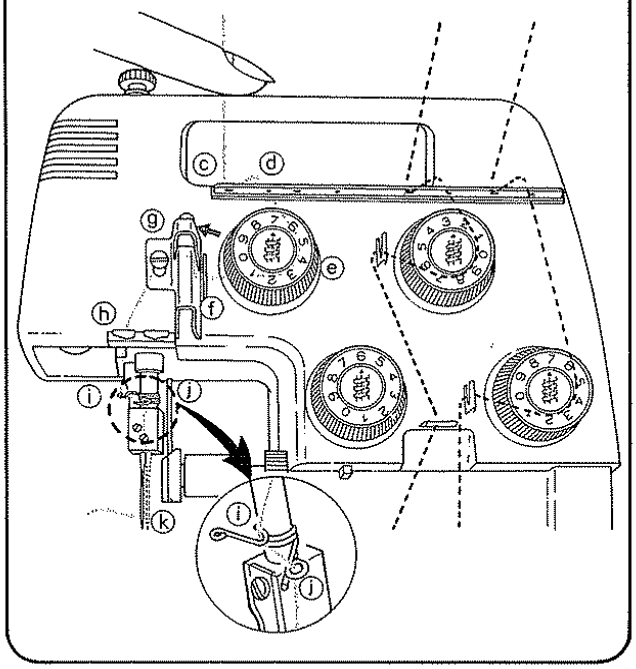


■ **3-Thread overedging stitch: 4 mm width**

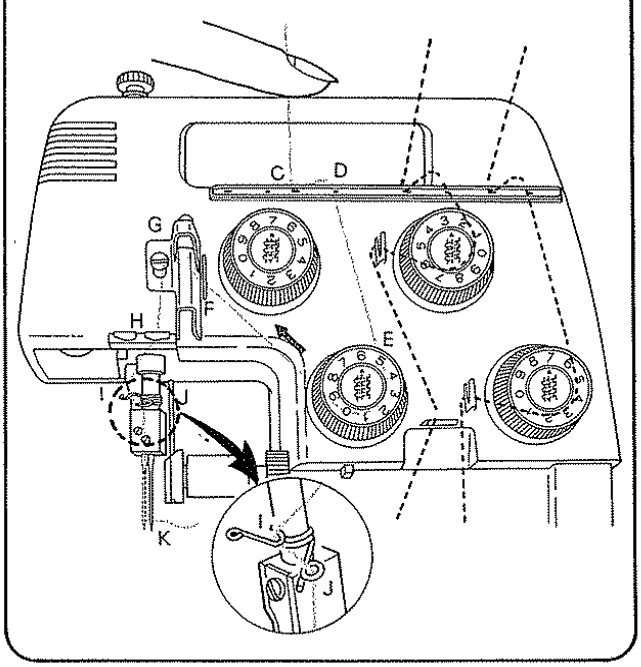


It is possible to achieve two different stitch widths.
The method for threading the upper looper thread and lower looper thread is the same as described on page 3.

By threading the left needle only, a width of 6 mm will be produced.



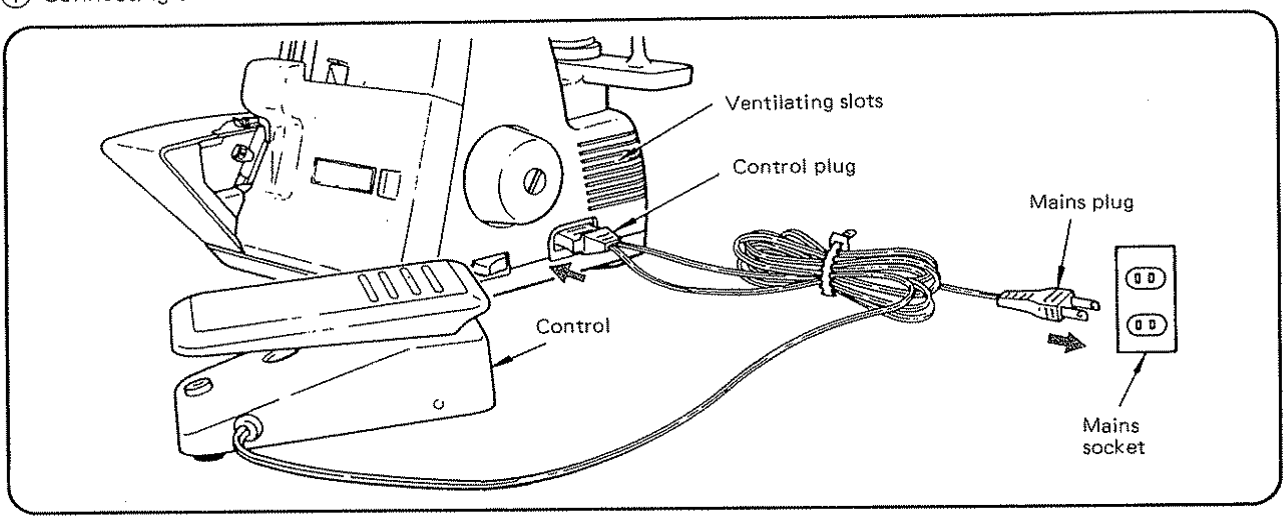
By threading the right needle only, a width of 4 mm will be produced.



Caution! When using only one needle, the needle not being used should be taken out.

How to use the foot control

① Connecting the foot control

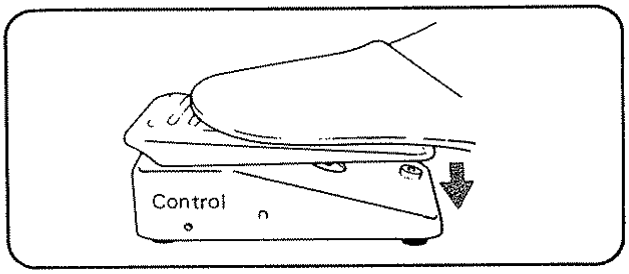


Connect the foot control plug to the machine socket as shown above, and then connect the mains plug to the mains socket.

② Depressing the power/lamp switch

U.S.A., Canada	Others
When you push O, the power will be turned off.	Power and light off.
Power without light ⊛.	
Power and light on ◎ .	Power and light on O.

③ Depressing the foot control



① Place your foot on the control as shown above.
② The sewing speed will increase as you increase the pressure on the control.
Adjust the sewing speed by adjusting the pressure on the control.

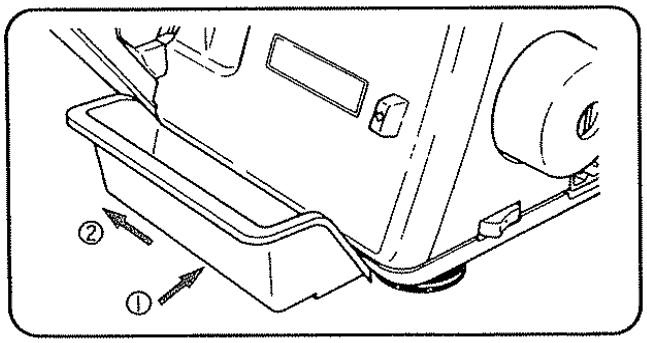
- **Caution**

① Unlike a home sewing machine, the motor drives the handwheel backwards as opposed to forwards.
② During prolonged operation of your machine, the motor and control will get warm but this will not harm the machine.
③ Be careful not to cover the ventilating slots of the motor and control with fabric or paper during operation.
④ When the motor is running, you may see small sparks through the ventilating slots on the handwheel side. These are perfectly normal.

- **CAUTION: When machine is not in use.**

① Turn off the power/lamp switch.
② Remember to disconnect the plug from the mains socket. Be sure to hold the plug when unplugging it.
③ Do not put anything on the control.

Operating the machine

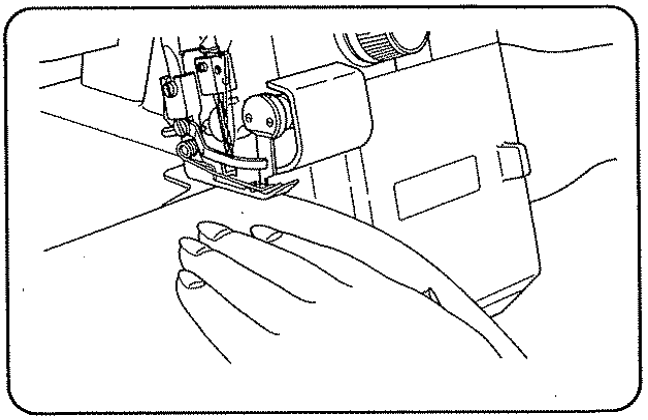


- **How to use the waste receptacle**

The waste receptacle provided with the machine is used to collect fabric scraps during sewing. Position the waste receptacle as follows.

① Place the waste receptacle between the machine and the table.
② Push the waste receptacle against the looper cover and move it to the left.

- When the waste receptacle is full, remove and empty it.

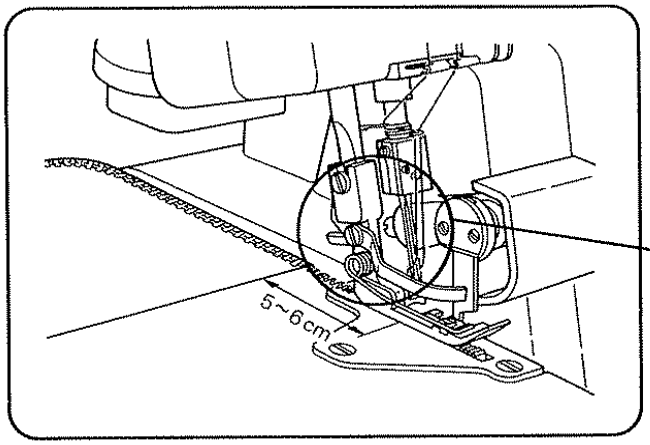


- **Trial Sewing** — After you have finished the necessary threading, do trial sewing.

When the overedger has been threaded for the first time or re-threaded because of thread breakage during sewing, start sewing in the following manner.

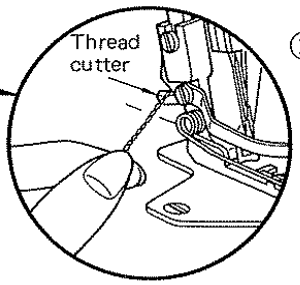
① Place the needle thread, upper looper thread and lower looper thread under the presser foot.
② Turn the handwheel two or three times backwards with your right hand to check that the threads lie correctly.
③ Then place fabric for trial sewing under the presser foot and start sewing.

- Make sure that the presser foot has come down before you start sewing.

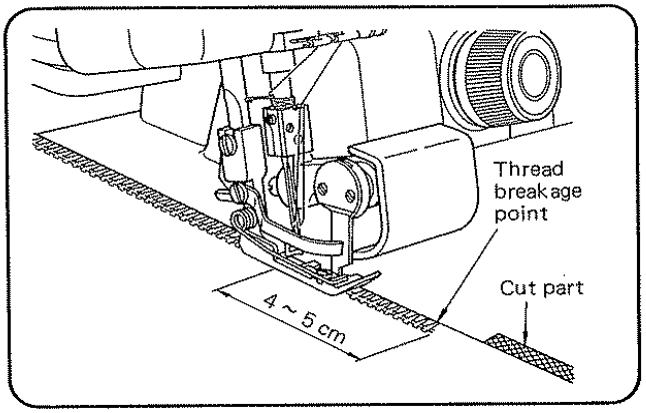


- **How to remove a finished piece of work**

① When work is finished, continue running the machine so that a chain of thread 5—6 cm long is made as shown in fig. left. Cut with thread cutter.



② Leave this chain ready to start next row of sewing.



- **If thread breaks during sewing**

① If you have thread breakage during sewing, remove the work from the machine and re-thread the machine as you threaded it at the beginning.

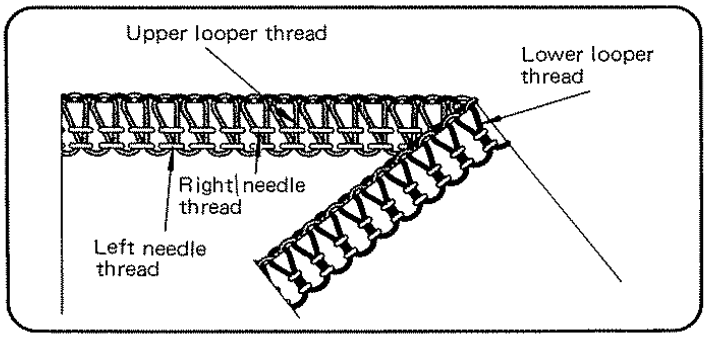
- If you re-thread the lower looper because of thread breakage during sewing, draw out the needle thread from the needle eye.
- If the upper looper thread has broken, turn the handwheel to bring the upper looper to its lowest position before re-threading it.

② Reset the work so that the part which is 4 to 5 cm before the thread breakage point is located under the presser foot, and restart sewing over the stitches previously sewn.

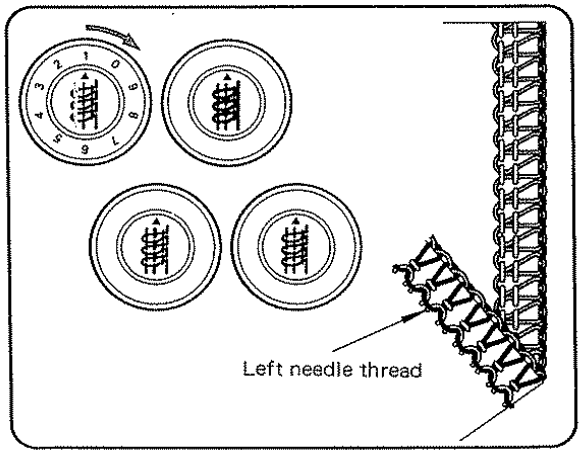
Adjusting the thread tension

Check the stitches formed each time the type of fabric or the count of thread is changed, and adjust the thread tension of the machine accordingly.

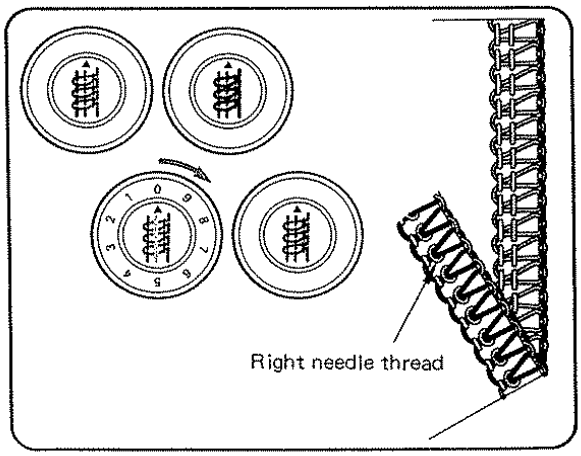
- **Correct thread tension**



- **The left needle thread tension is too low**

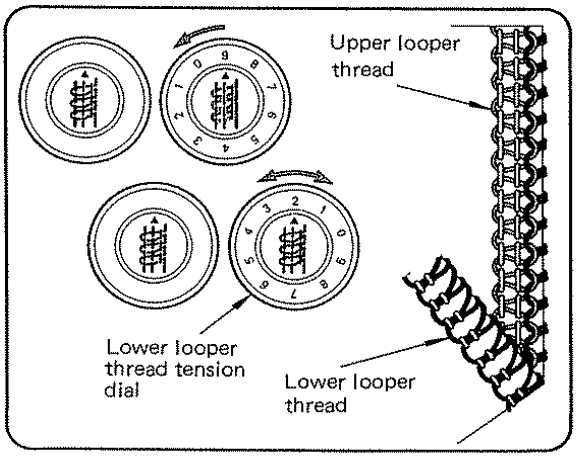


- **The right needle thread tension is too low**

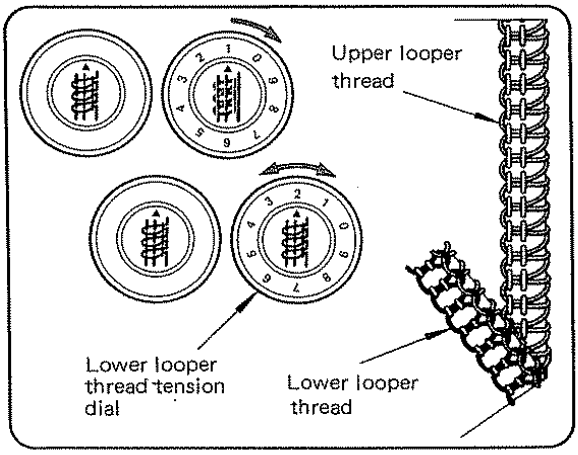


Turn the dial in the direction indicated to set it at a higher number.

- **The upper looper thread tension is too high**

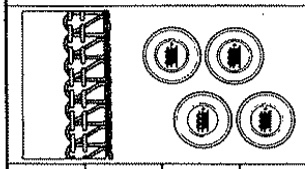


- **The upper looper thread tension is too low**



1. Match the lower looper thread tension dial to the position of "Standard thread tension setting" described on page 8.
2. Adjust by using the upper looper thread tension dial.

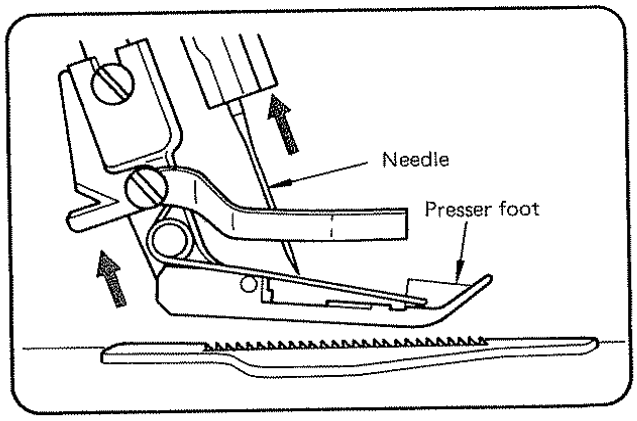
How to set the dials according to each thread and fabric

Threads	Fabrics			Standard thread tension setting									
				4-thread overedging stitch				3-thread overedging stitch 4 mm width			3-thread overedging stitch 6 mm width		
													
				Left needle	Right needle	Upper looper	Lower looper	Right needle	Upper looper	Lower looper	Left needle	Upper looper	Lower looper
Spun thread polyester, e.g. Metrocor 120	Knitted fabric	Light-weight fabric	Interlock, 40-denier tricot	4 ≀ 6	4 ≀ 6	4 ≀ 6	4 ≀ 6	4 ≀ 6	4 ≀ 6	4 ≀ 6	★		
		Medium-weight fabric	Crimplene, Single-knit jersey										
		Heavy-weight fabric	Double-knit jersey, Stretch cord, Stretch denim					★			3 ≀ 5	3 ≀ 5	2 ≀ 5
	Woven fabric	Light-weight fabric	Lawn, Muslin, Georgette, Crepe de chine, Organdie, Voile	4 ≀ 6	4 ≀ 6	3.5 ≀ 6	3.5 ≀ 5.5	3.5 ≀ 6	4 ≀ 6	2.5 ≀ 5	★		
		Medium-weight fabric	Broad cloth, Gingham, Poplin, Corduroy Shantung, Poral										
		Heavy-weight fabric	Denim, Tweed, Drill, Velour								3 ≀ 5	4 ≀ 6	2 ≀ 4
Polyester continuous	Knitted fabric	Light-weight fabric	Interlock, 40-denier tricot	1 ≀ 4	2 ≀ 5	3 ≀ 5	1.5 ≀ 3.5	2.5 ≀ 4.5	3.5 ≀ 5	1.5 ≀ 3.5	★		
		Medium-weight fabric	Crimplene, Single-knit jersey										
		Heavy-weight fabric	Double-knit jersey, Stretch cord, Stretch denim					★			1 ≀ 3	3.5 ≀ 4.5	1 ≀ 3
	Woven fabric	Light-weight fabric	Lawn, Muslin, Georgette, Crepe de chine, Organdie, Voile	1.5 ≀ 3.5	2.5 ≀ 4.5	3.5 ≀ 4.5	1.5 ≀ 3.5	2.5 ≀ 4.5	3.5 ≀ 5	1.5 ≀ 3.5	★		
		Medium-weight fabric	Broad cloth, Gingham, Poplin, Corduroy, Shantung, Poral										
		Heavy-weight fabric	Denim, Tweed, Drill, Velour								1 ≀ 3	3.5 ≀ 4.5	1 ≀ 3

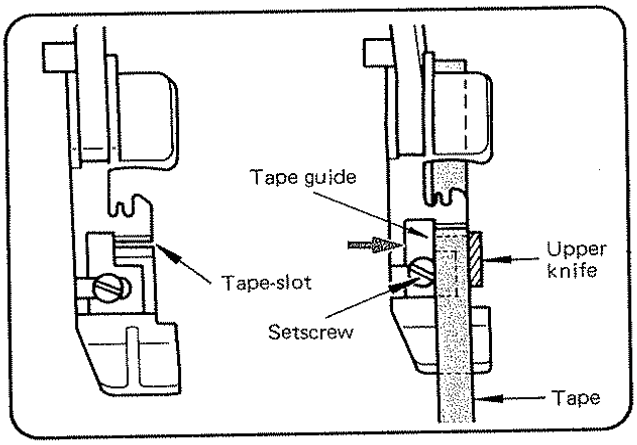
Mark ★ Not normally used.

Taped overlocking

Taped overlocking is used to strengthen the shoulder, sleeve or side seams of knitted garments.

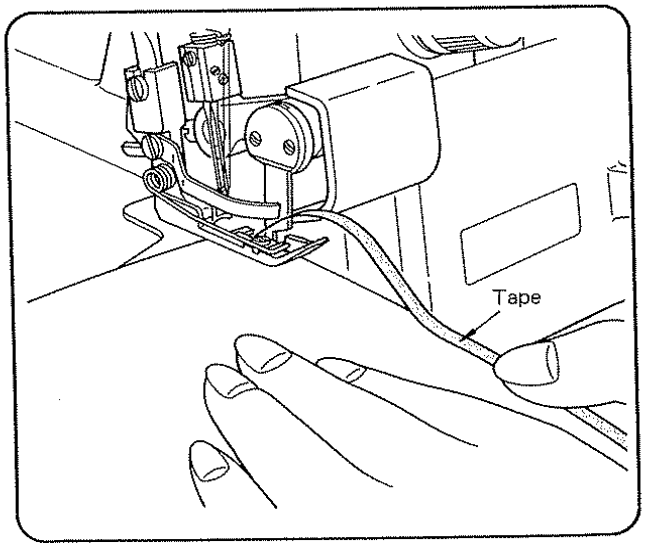


1. Raise the needle to its highest point by turning the handwheel clockwise, and raise the presser foot.



2. Insert the tape in the tape-slot of the presser foot, using the tweezers.

3. Place the tape firmly between the upper knife and the tape guide.
The lateral position of tape guide is adjusted by loosening the setscrew.



4. Lower the presser foot, and sew 2 or 3 stitches on the tape.

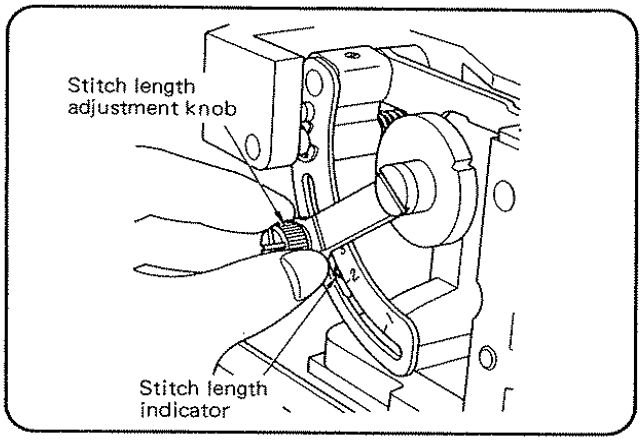
5. Raise the presser foot, and place the fabric under the presser foot.
When the fabric is correctly positioned, lower the presser foot and start sewing.

Adjusting the stitch length・Presser foot pressure・Fitting the needles・Swing out foot

- **Adjusting the stitch length**

The stitch length of this machine has been factory-adjusted to 2.5 mm. It is usually unnecessary to adjust the stitch length, but if you need to, do it as follows:

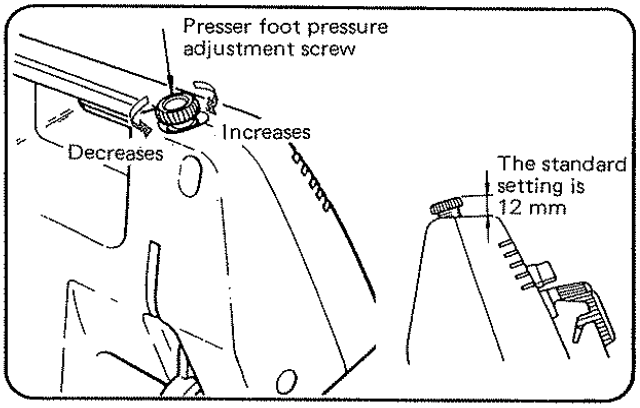
① Open the cloth plate.
② Hold the handwheel with your right hand, and loosen the stitch length adjustment knob.
③ Move the stitch length adjustment knob up or down to make adjustment. (Adjustable within the range of 1 to 5 mm.)
④ Set the stitch length indicator to the number required, and retighten the knob.



- **Presser foot pressure**

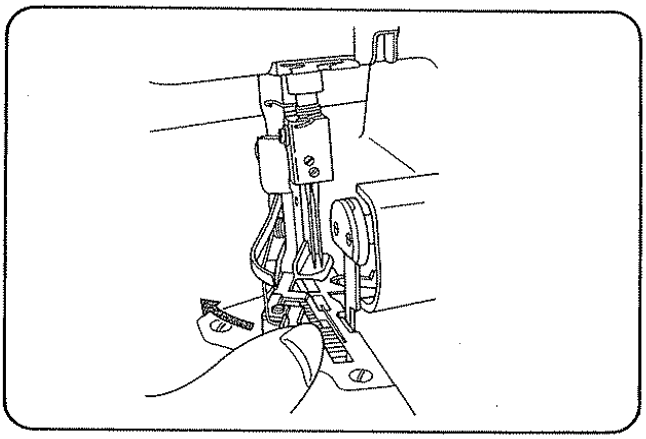
The presser foot pressure of the machine has been factory-adjusted and requires no particular readjustment according to type of fabric (light-or heavy-weight).
However, if you need to adjust the presser foot pressure, do as follows:
Use the presser foot pressure adjustment screw to make the adjustment.

① Decrease the pressure when sewing light-weight fabrics.
② Increase the pressure when sewing heavy-weight fabrics.
- Do this by turning the presser foot pressure adjustment screw in the directions indicated in the figure below.

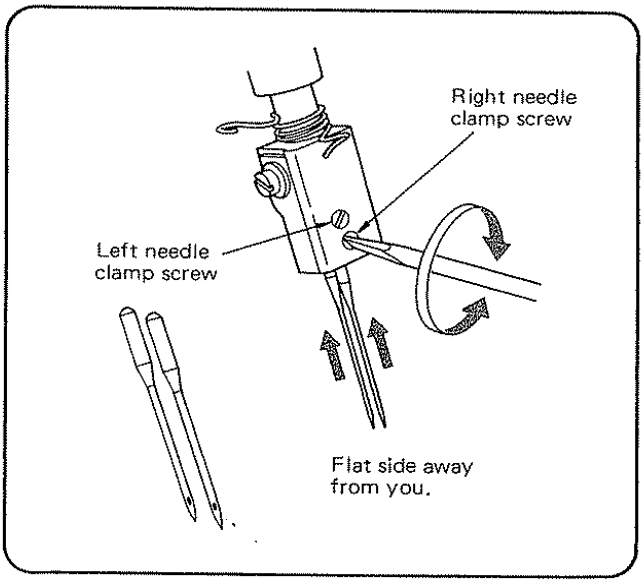


- **Inserting the needles** • **Swing out foot**

1 Turn the handwheel until the needle bar reaches its highest position.
2 Lift the presser foot, and turn it to the left.



3 Loosen the needle clamp screw to remove old needle. Place new needle with FLAT SIDE AWAY FROM YOU, up into the groove of the needle bar, ensuring that it is inserted as far up as it will go.
Re-tighten the screw securely.
4 Turn the presser foot to the right to its original position.
5 Attention: When the presser foot is turned to the left, for safety reasons the MACHINE CAN NOT BE OPERATED.



- **Selecting the needle**

The standard needle to be used with this machine is 130/705 H No. 80 or HA x 1 No. 11.

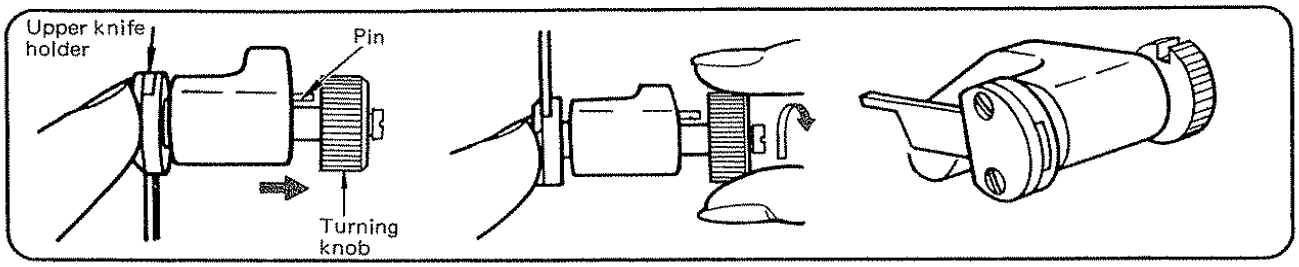
Replacing the knives

The lower knife could wear out, and therefore might need replacing when it is blunt.

- **CAUTION:** Be sure to disconnect the power plug from the mains socket before replacing the lower knife.

- **Removing the lower knife**

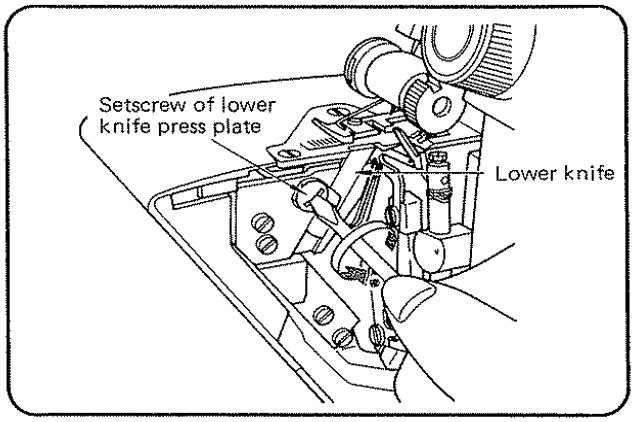
① Turn the handwheel until the knife reaches its highest position. Then open the looper cover.



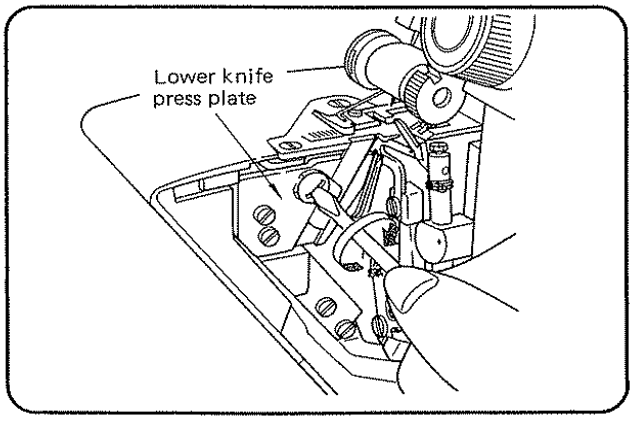
② Push the upper knife holder fully to the right which will release the turning knob from the pin.

③ Turn the knob in the direction indicated.

④ Turn the knob until it is in the position shown above.



⑤ Loosen the setscrew of the lower knife press plate to remove the lower knife as shown in the figure left. (A spare lower knife is provided as an accessory.)



- **Attaching the lower knife**

① Fit the lower knife in the lower knife holder groove as shown in the figure.
② Position the cutting edge of the lower knife so that it is flush with the throat plate surface. Then secure by tightening the setscrew.

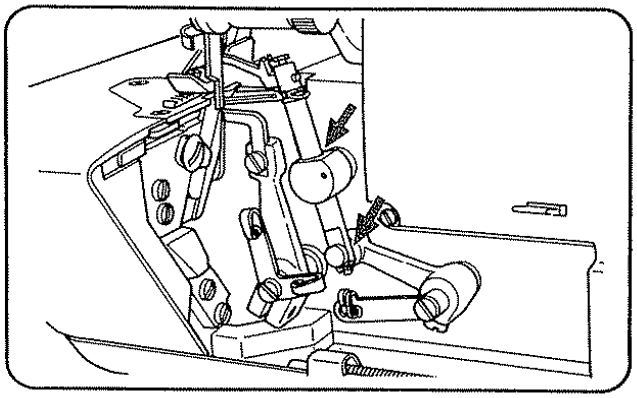
- After you have finished replacing the lower knife, push the upper knife holder fully to the right and turn it towards you, until the pin engages with the turning knob.

- **Replacing the upper knife**

The upper knife (movable knife) of a BERNETTE machine is made of special material called cemented carbide and does not usually need to be replaced. However, if its blade is chipped, it must be replaced. Replacement knives can be purchased from your local BERNETTE dealer.

Lubrication · Replacing the bulb

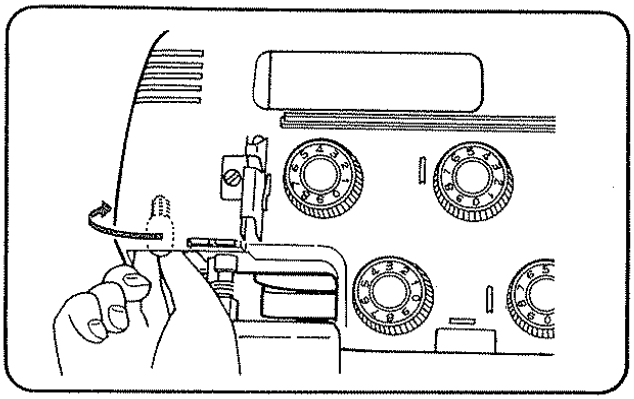
- **Lubricating the machine**



This machine requires less lubrication since its major components are made of special material. However, the machine will operate smoothly for a long time if you lubricate the points shown above.

- Apply one or two drops of oil for each lubrication.

- **Replacing the bulb**



If the bulb has burnt out, a new bulb can be purchased at your local dealer.

- The consumption power of the lamp is 15 watt.
- **CAUTION:** Make sure the power/lamp switch is off before replacing the bulb.

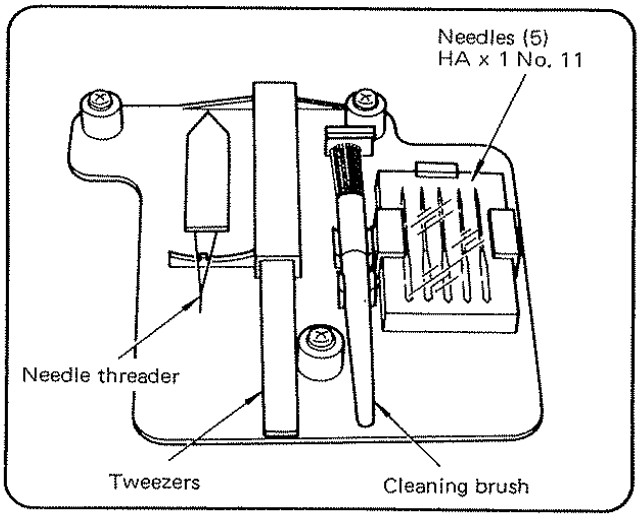
Specification of package & accessories

- **Specification of package**

1. Sewing machine (with motor) ____ 1 set
2. Foot control ____ 1 set
3. Instruction manual ____ One
4. Inspection certificate ____ One
5. Accessories and case ____ 1 set

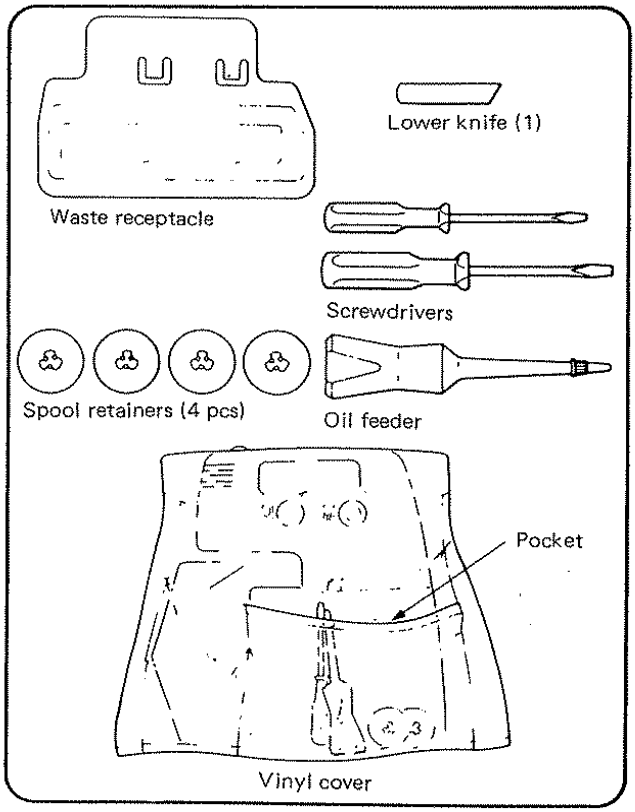
(See the specification of the accessories and the accessories in the looper cover.)

- **Accessories kept in the looper cover.**



Needle 130/705H No. 80 can also be used for this machine as well as needle HA x 1 No. 11.

- **Specification of the accessories**

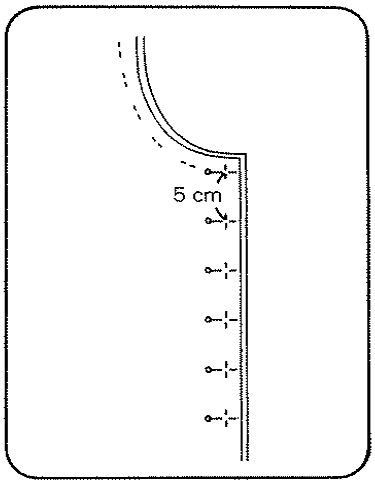


- It is advisable to keep the lower knife, screwdriver, spool retainer and oil feeder in the pocket of the cover.

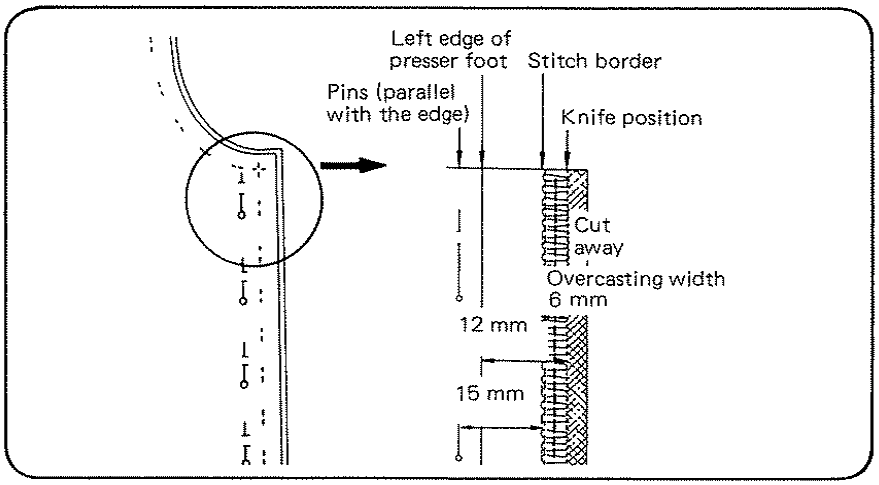
How to sew

- **Making a stitched and overcast seam**

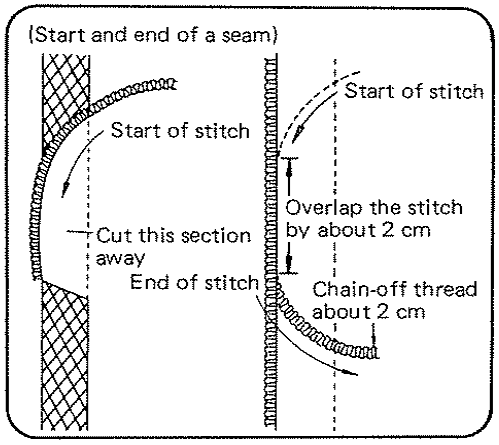
Since your machine has a knife to cut the edge of the fabric, you cannot sew with pins inserted as you can do with a normal domestic zigzag machine. The best way is to baste the seam before you sew. Alternatively, you can save time by inserting the pins parallel with the edge and then stitch two or more pieces of fabric together without having to remove the pins.



① Method for household sewing machines.

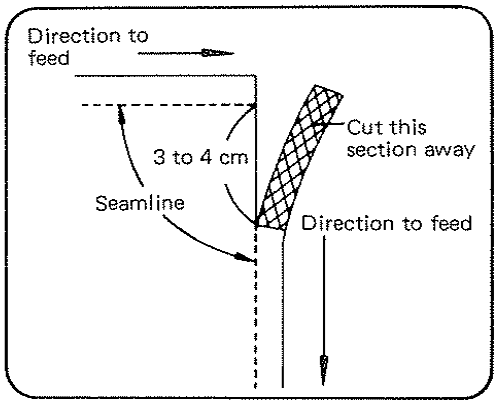


② For overlocking, insert the pins parallel to and about 1.5 ~ 2 cm in from the edge of the fabric, thereby taking into account the width of the presser foot.


(Start and end of a seam)
Start of stitch
Start of stitch
Overlap the stitch by about 2 cm
Cut this section away
End of stitch
Chain-off thread about 2 cm

- **Overcasting the hem of a skirt**

Overcast the hem edge, keeping the depth of the hem even. When overcasting the hem on a garment which is shaped, it is necessary to first work a line of straight stitches with a normal sewing machine to ease in the fullness evenly round the hem.
To overcast, place the fabric at an angle under the presser foot and sew into the hem edge position in a curved line. At the end of the sewing, overlap the beginning stitches by approx. 2 cm and stitch off the fabric to leave a chain of threads of about 2 cm. This chain-off thread at the end of the sewing prevents the stitch from coming undone.
Slip these ends into the hem when sewing the hem into position.



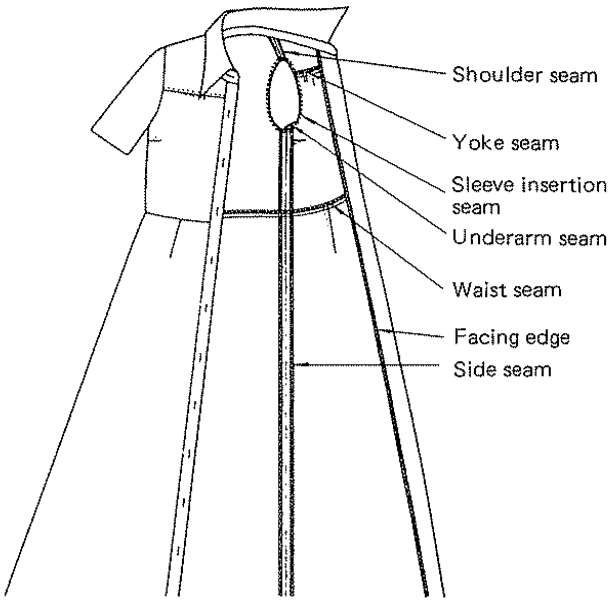
- **Overcasting a corner**

Because there is a certain distance between the knife and the needle, you should cut away a small piece of the seam allowance at the beginning as illustrated so that the fabric can reach the needle.
① When you have finished sewing along one edge, lift the presser foot, pull the work out to the back of the foot, taking care not to break the threads.
② Turn the work, lower the presser foot and sew evenly along the next edge.

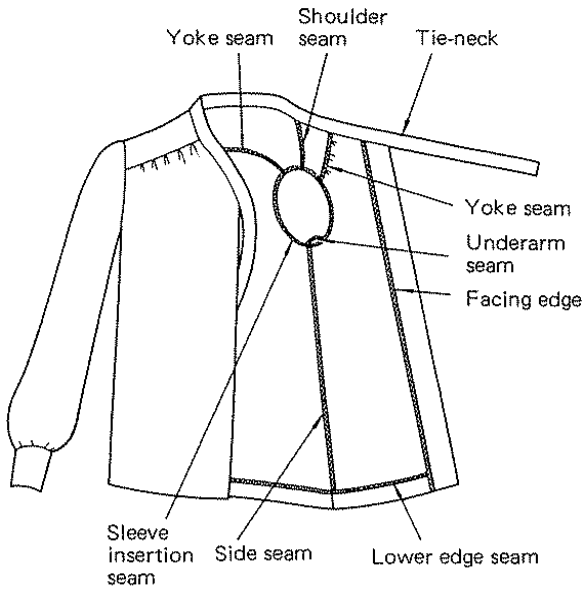
Applications • Roll hemming attachment (Available separately)

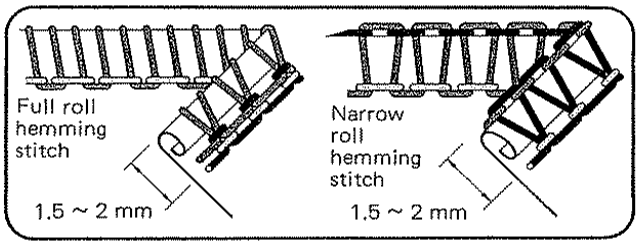
- **Application** — This machine is suitable for sewing the following:

■ One-piece dress (medium- and heavy-weight fabric)



■ Blouse (light-weight fabric)





- **Roll hemming attachment** (Available separately)

By using the roll hemming throat plate and presser foot and roll hemming thread tensioner, you can make narrow and full roll hemming stitches for rolled hems on articles such as scarves and handkerchieves.

- For details of how to use the roll hemming attachment, see the manual provided with it.
- The attachment can be purchased from your local BERNETTE dealer.

- **Specification table of MO-234**

Description	Specification
Number of threads	4 or 3
Needles	130/705H No. 80 or HA x 1 No. 11
Overedge width	4-thread . . . . . 6 mm 3-thread Left needle . . . . . 6 mm Right needle . . . . . 4 mm
Stitch length	1 ~ 5 mm (Standard feed amount: 2.5 mm)
Lift of presser foot	5 mm
Sewing speed	Up to 1500 s.p.m.
Size	300 (W) x 265 (D) x 280 (H) mm
Weight	7.2 kg

- **Before calling for service**

The following problems are not caused by your machine. Check them again in accordance with the table below before calling for service.

Problem	Cause (Reason)	Corrective action	Page
Fabrics are not fed	① The presser foot pressure is not high enough.	Turn the presser foot pressure adjustment screw clockwise to increase the presser foot pressure.	10
Needle breakage	① The needle is bent or the needle point is blunt. ② The needle has been improperly attached to the needle bar. ③ You have forcibly pulled the fabric.	Replace with a new needle. Attach the needle correctly to the needle bar. Lightly put your hand on the edges of the fabrics while you are sewing.	10 10
Thread breakage	① Threading is wrong. ② Thread tension is too high. ③ The needle has been improperly attached to the needle bar.	Thread the machine correctly. Decrease the thread tension. Attach the needle correctly to the needle bar.	3, 4 7 10
Stitches are skipped.	① The needle is bent or the point is blunt. ② The needle has been attached improperly to the needle bar. ③ The machine has been improperly threaded.	Replace with a new needle. Attach the needle correctly to the needle bar. Thread the machine correctly.	10 10 3, 4
Stitch tension is bad.	① Thread tension is not correct.	Correct the thread tension.	7
Workpieces are puckered.	① The needle thread tension is too high. ② The machine has been improperly threaded, or a thread has been caught at some unnecessary point.	Set the needle thread tension dial to a smaller number. Re-thread the machine correctly.	7 3, 4
Troubles with motor.	① The motor produces noises. ② The motor will not run at all. ③ Unusually large sparks are produced.	Replace the carbon brushes. Ask your dealer to replace the carbon brushes.	

If the above corrective actions do not solve your problem, contact your dealer.

Fritz Gegauf Ltd.
Bernina Sewing Machines
CH-8266 Steckborn/Switzerland

Nr. 501 000 03
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